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THE MOLLUSCAN TAXA OF A. W. GRABAU 4 $. С. KING (1928)
AND THEIR TYPES

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ABSTRACT

The 46 names of species of marine bivalves and gastropods made available by Grabau
& King in 1928 are discussed. Probable or possible type material for all but 13 of these taxa has been located in the Institute of Oceanology, Chinese Academy of Sciences. Of these taxa, nine are regarded as valid, the rest being junior synonyms. The valid taxa are: Verilarca interplicata, Collisella peitaihoensis, Rissoina barbara, Rissoina bureri, Epitonium scalare mi-nor, Gradatiscala gradata pygmaea, Nassarius gregarius, Terebra bellanodosa and Mangelia dobsoni, all Grabau & King, 1928. Brief biographies of Amadeus William Grabau (1870-1946)
and Chinese malacologist Sohtsu Gee King (1886-1949) are provided.
Key words: China, taxonomy, malacological history, A. W. Grabau, $. С. King.

INTRODUCTION

The first scientific reports on the marine
mollusks of China were published by western
malacologists in the first half of the 19th century,
although economically important mollusks were
treated in Chinese encyclopedias and manu-als on the culture of bivalves as early as the Ming Dynasty (Bernard et al., 1993). National taxonomic and faunal studies in China started in the 1950s, and the collected material is now mostly housed in the Institute of Oceanology, Chinese Academy of Sciences (formerly, Aca-demia Sinica), Qingdao. However, several im-portant studies on mollusks were done before the World War Il, among them those by А. W. Grabau, S. G. King, Chi Ping, Teng-Chien Yen and Tchang Si [Zhang Xi].
The German-American geologist and pale-ontologist Professor Amadeus William Grabau (1870-1946) and the Chinese malacologist Sohtsu Gee King (1886-1949) were two impor-tant early researchers on the Mollusca in China. During 1927-1923, they published Shells of Peitaiho in the China Journal of Science and Arts in seven parts with five chapters (Grabau & King 1927a—c, 1928a—d). These articles were then compiled into a small handbook Grabau

& King (1928e), presumably after the last ar-ticle had appeared in July. Still later in 1928, they greatly revised the book and published a second edition, divided into ten chapters and with the addition of many text-figures and photographs (Grabau & King 1928f). The new species and varieties of the first papers, as well as some additional new taxa, were redescribed and illustrated in the second edition. The new taxa all date from 1928, because the 1927 parts of this series were devoted to general descrip-tions of the Mollusca. (Grabau also published two short papers about shells while in China — Grabau, 1927, 1928.)
Amadeus W. Grabau made many contribu-tions to science. He was born on January 9, 1870, in the village of Cedarburg, Wisconsin, where his father was a Lutheran pastor. His college education was at the Massachusetts Institute of Technology, where he studied geol-ogy, mineralogy and physical geography. He was influenced by, among others, by Alpheus Hyatt, the Chief Director of the Museum of
the Boston Society of Natural History and the
Curator of Paleontology of the Museum of Com-
parative Zoology at Harvard University (Ting,
1931; Wang, 1931; Thomas, 1946; Manzur,
2004). After obtaining a doctorate from Harvard

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in 1900, he served as Adjunct Professor at Columbia University in 1902-1905, and then Professor there until 1918. His main research interests were stratigraphy and paleontology
(Sun, 1947).
In 1920, Grabau moved to China and became Professor of Paleontology at the National Uni-versity of Peking and Chief Paleontologist of the Geological Survey of China (Sun, 1947). At that time, he began to issue paleontological monographs — Palaeontologia Sinica — and par-ticipated in the organization of the Geological Society of China, the Paleontological Society of China and the Peking Society of Natural His-tory. Altogether, he published some 291 papers and books (Sun, 1947).
Grabau’s collaborator Sohtsu Gee King was another pioneer of the Chinese malacology. In addition to the Peitaiho book, he and Chi Ping published a series of reports on the gastropods of Hong Kong (King & Ping, 1931a, b, 1933, 1936) along with several other papers (King, 1926; King & Ping, 1935). Sohtsu G. King [also spelled as “Sho-Tsu G. King”, or “Chin Shao-Chi”] was born at Nanziung, Chekiang [= Nanxun, Zhejiang Province] in 1886. He went to England in 1902, where he studied at King’s College [probably that in London], specializing in electric engineering. He returned to China in 1905 and organized the electric department in the technical school of the Board of Commerce at Peking [= Beijing]. Later, he was appointed a member of the Board of Communications, and joined the Nanyang College as the head of the Chemistry Department. In 1911, he rejoined the Ministry of Communications. In 1911, King went to Hankow [= Hankou, Hubei Province] as managing director of a real estate and trad-ing company, and in 1916 he went to Peking to engage in business. He was recognized as “the first conchologist of this country” [China] (Anonymous, 1936a). He was on the Board of Trustees of the China Foundation, dedicated to the promotion of science, for over ten years from the 1930s to the 1940s (Yang, 1991). In the second edition of the Shells of Peitaiho (Grabau & King, 1828f), Sohtsu G. King is also identified as the President of the Peking Society of Natural History, Honorary Secre-tary and Curator of the Peking Laboratory of Natural History, and, additionally, a member of the Malacological Society of London and the Conchological Society of Great Britain and Ireland. He was also known as Vice-President of the Peking Rotary Club and Vice-President of the Peiping Institute of Fine Arts (Anonymous,

1936a). A note in Nature (Anonymous, 1936b) said that King, “the Chinese conchologist and banker,” had given a valuable collection of malacological literature to the Science Society of China Library in Shanghai, and that this col-lection was started some 20 years earlier when he was studying conchology with Prof. Grabau of Peking University. The Council of the Society decided that a special room was to be used to house the collection under the name “Sohtsu G. King Library of Conchology,” which was a part of Mingfu Library. The Science Society Library is now the Huangpu District Mingfu Library, but after the founding of the People’s Republic of China, the early volumes were moved into the Shanghai Library, where some of the original King volumes can now be identified by stamps and labels (Fig. 1).
For a long time, the location of the type material of Grabau & King’s new species and varieties was unknown, and some of their names have been taken as junior synonyms of other taxa, in many cases based on guess work because of the poor original illustrations. Several years ago, one of us (Lutaenko) had suggested that the Grabau-King collection might be housed in the Marine Biological Mu-seum, Chinese Academy of Sciences (MBM CAS), Qingdao, and drew the attention of Coan to the problem that the first papers and first edition of the Shells of Peitaiho were not often cited in the literature. During their work on taxonomic study of molluscan collections in the MBM CAS, Zhang and Sun found a number of shells labeled as “Grabau-King Laboratory of Natural History, Peking, China.” We believe that these shells are the materials of Grabau & King from their study of marine mollusks of Peitaiho.
These shells were previously located in the Fan Memorial Institute of Biology (= Fan Institute of Biology), Beijing (now Institute of Zoology, Chinese Academy of Science), and are now housed in the MBM CAS. According to a label found with these shells, they may have been originally donated by Sohtsu G. King (Fig. 2). On August 1, 1950, when the Qingdao Marine Biology Laboratory, the pre-decessor of Institute of Oceanology, Chinese Academy of Sciences (IOCAS), was founded, Professor Zhang Xi, Qi Zhongyan, Liu Ruiyu, Li Jiemin and Ma Xiutong came to Qingdao and brought some marine collections that may have included the shells of Grabau & King.
The Peitaiho region, which is now known as Beidaihe, is located west of Qinhuangdao City,

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Book stamps from the Sohtsu G
in the Shanghai Library.

FIG 1;

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FIG. 2. Photographs of materials in the MBM CAS. The Chinese characters in the label in the upper left reads “Donated by Sohtsu С. King” and “(Beidaihe)” from top to bottom.

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FIG. 3. Map showing Beidaihe [Peitaiho] on the Bohai Sea.

Hebei Province, and is a well-known summer
resort (Fig. 3). The Beidaihe district is located
on the coast of China’s Bohai Sea. It has an
area of about 70 km? and a coastline of about
22 km in length. The beach consists of fine
yellow sand some 100 meters wide. Grabau & King (1928f) also mentioned another geo-graphical name, Pechili Bay, an old name of the Вора! Sea — until the early 20th century, Bohai Sea was often called the Gulf of Pechihli or Pechili. The Bohai Sea, now also known as Bohai Gulf, Bohai, or Bo Hai, is the innermost part of the Yellow Sea on the coast of north-eastern and northern China (Fig. 3). Most ofthe shells collected by Grabau & King cannot be found there now because of habitat loss due to construction of tourist and industrial facilities, decreased water quality and overfishing.
We here list the taxa made available by Grabau & King, and we figure the type material that has been located in the collection of the MBM CAS, Qingdao. We also comment on the present taxonomic status of the species. The type material of bivalve mollusks described by other Chinese malacologists after World War | and stored in the same museum was recently reviewed by Lutaenko & Xu (2008).

MATERIAL AND METHODS

All examined specimens are dry shells in boxes at the Marine Biological Museum, Chi-nese Academy of Sciences (abbreviated MBM), in Qingdao, China. For each registered lot number, specimen quantity, collection locality, collector and collection date as on labels are recorded, except for some lots that lack this information.
The specimens labeled “Grabau-King Labora-tory of Natural History” were taken as syntypes herein, except a specimen of Arca (Barbatia) interplicata Grabau & King, 1928, which was labeled as the holotype. Other specimens la-beled only as “Museum of Zoology, Fan Institute of Biology, Conchological Section” deposited with these presumed types are also likely to be Grabau & King materials, but there is insufficient evidence to regard them as type material.
In the course of the review of this material, additional unpublished manuscript names by Grabau & King were noted on museum labels, but these are not mentioned here so as not to create additional confusion.
It should be noted that Grabau & King fol-lowed the old tradition of assigning female

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gender to varietal names, regardless of generic combination, and we have retained the original spellings with the initial entries.
The sources of the suggested synonymies
are indicated. Those not indicated as being by
other workers are new herein.

Abbreviations

MBM CAS - Marine Biological Museum, Chi-nese Academy of Sciences, IOCAS, Qingdao, China
IOCAS - Institute of Oceanology, Chinese Acad-emy of Sciences, Qingdao, China
MZFIBCS — Museum of Zoology, Fan Institute of Biology, Conchological Section, Beijing, China
GKLNH — Grabau-King Laboratory of Natural History, Peking [Beijing], China
pv- paired valves
lv — left valve
rv — right valve
L - length
H — height
W - width

SYSTEMATICS

Class Bivalvia Linnaeus, 1758
Family Arcidae Lamarck, 1809

Arca (Scapharca) peitaihoensis
Grabau & King, 1928
Figure 4A-D

Scapharca peitaihoensis Grabau & King, 1928a: 35; 1928e: 29; 1928f: 65, 159, 254, DET. 6.

Material Examined
MBM280616 (ex MZFIBCS, 5 Iv, 3 rv), Peit-aiho.

Modern Status
Synonym of Arca kagoshimensis (Tokunaga, 1906).

Remarks

This has been listed as a possible synonym of Anadara kagoshimensis (Tokunaga, 1906) (Higo et al., 1999: 425), or as a synonym of Anadara gubernaculum (Reeve, 1844) (Huber, 2010: 136, 586).

We do not agree that Arca (Scapharca) peit-aihoensis Grabau & King, 1928, is a juvenile Anadara gubernaculum (Reeve, 1844). The syntype of Anadara gubernaculum (Reeve, 1844) (Lamprell & Healy 1998: 58, sp. 87) is triangular and this species usually has 30 ribs (not 45 ribs, as per Huber, 2010), whereas the Grabau & King specimens have oval shells, many dense, thin ribs and inflated umbones. Arca kagoshimensis Tokunaga, 1906, has been listed as a synonym of what was widely known as Anadara subcrenata (Lischke, 1869) by Habe (1951, 1965) and Noda (1966: 119). Bernard et al. (1993) noted that Arca subcre-nata Lischke, 1869, is preoccupied (non Arca subcrenata Michelotti, 1861). Although they proposed the replacement name Scapharca sativa Bernard, Cai & Morton, 1993, they also listed Scapharca kagoshimensis (Tokunaga, 1906) as a synonym. Thus, A. kagoshimensis is the first available name for this species (Tsuchida & Kurozumi, 1993: 8, pl. 2, fig. 3; Evseev & Lutaenko, 1998: 26-28). It should be noted that Lischke (1869) printed another name in the caption to pl. 9 of his volume subsequent to the journal article that first made the name available — Arca nodoso crenata [sic], but he noted in the second volume “On the panel, this kind of mistake of the printer ‘Arca-nodoso crenata’ was stated” (Lischke, 1871: 144), thus indicating that it was merely a subsequent misspelling and is therefore unavailable (ICZN Code Art. 33.3).
Anadara peitaihoensis is also close to Ana-dara (Scapharca) cornea (Reeve, 1844), which is rarely figured in northeast Asian literature and has often been misinterpreted. Habe (1965: 79-80, pl. 2, figs. 3, 4) differentiated the Japa-nese form and said that A. cornea is closely related to A. subcrenata but has fewer radial ribs (27-30) (29 in Reeve's original descrip-tion). It is strange that Grabau & King (19281: 157, pl. 1, fig. 2) clearly described in detail and figured true adult “Arca (Anomalocardia) subcrenata Lischke” of 34—44 mm (maximum 56 mm) as being “by far the most common species on these beaches” (Grabau & King, 1928f: 157) but did not compare it with their A. peitaihoensis.
That said, there are many unresolved taxo-nomic difficulties with inaequivalve anadarines in Asian waters (particularly the “Anadara т-aequivalvis” complex) (Huber, 2010; Lutaenko & Volvenko, 2013), and correct names of a number of species remain to be resolved.

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FIG. 4A-D. Arca (Scapharca) peitaihoensis Grabau & King. MBM280616, length = 18.84 mm.

Arca obtusa var. duplicostata Material Examined
Grabau & King, 1928 Syntypes, MBM280617 (ex GKLNH, 4 lv, 9
Figure SA-D rv), no collection information; MBM280627
(ex MZFIBCS, 3 rv), Beidaihe. Arca obtusa [Reeve, 1844] var. duplicostata
Grabau & King, 1928а: 35; 1928e: 30; 19281: Modern Status
67, 159-160, 254, pl. 1, fig. 7. Synonym of Mesocibota bistrigata (Dunker,
1866).

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Remarks

While placed in different genera by Bernard
et al. (1993: 23) (Nipponarca), Xu (1997: 21) (Barbatia) and Huber (2010: 132, 562) (Me-socibota), it has been widely accepted as a synonym of Dunker’s bistrigata, the exception being Higo et al. (1999: 422), who synony-mized it with Barbatia (Savignyarca) virescens (Reeve, 1844). Lamprell & Healy (1998) syn-onymyzed Barbatia signata (Dunker, 1868)

with B. bistrigata and Nipponarca adamsiana (Dunker, 1866) (although a syntype of N. adamsiana from the collection of the Natural History Museum in London figured by them (1969241, China, Cuming coll.) is different from those figured by Scott (1994: pl. 2, fig.
A). The relationships among the genera (or
subgenera) of Barbatia, including Nipponarca
Habe, 1951, Hawaiarca Dall et al., 1938, and
Mesocibota lredale, 1939, are much in need
of revision.

FIG. 5A-D. Arca obtusa var. duplicostata Grabau & King. A, B: MBM280617, syntype, length = 30.1 mm; C, D: MBM280627, length = 14.1 mm.

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Arca (Barbatia) interplicata
Grabau & King, 1928
Figure 6A, B

Barbatia interplicata Grabau & King, 1928a: 35; 1928e: 29-30; 1928f: 66-67, 161-162, 25pl4. 1,. 19. 9:

Material Examined
“Holotype”, MBM280618 (ex GKLNH, 1 lv), no collection information. The original description indicated that there was only a single specimen.

Modern Status
Verilarca (Verilarca) interplicata (Grabau & King, 1928).

Remarks

Bernard et al. (1993: 26) listed this species both as a synonym of Striarca symmetrica (Reeve, 1844) and as Verilarca interplicata

(Grabau & King, 1928) (Bernard et al., 1993: 27). Qi (2004: 222, pl. 116C) and Xu & Zhang (2008: 41) listed it as valid as Arcopsis interpli-cata (Grabau & King, 1928), and Huber (2010:
146) regarded it as a valid species as Verilarca (Verilarca) interplicata (Grabau & King, 1928).

Family Ostreidae Rafinesque, 1815

Ostrea chemnitzi var. elongata
Grabau & King, 1928
Figure 7A—F

Ostrea chemnitzi [Hanley, 1846] var. elongata Grabau & King, 1928a: 31; 1928e: 26; 1928f: 58, 164, 256, pl. 2, fig. 14, non Ostrea elon-gata Born, 1778.

Material Examined
Lectotype (here designated), MBM229012
(ex GKLNH, 1 pv), Peitaiho, July 1925
(Dimension: lv = 21.7 mm x 15.9 mm, rv =

5 mm

FIG. 6A, B. Arca (Barbatia) interplicata Grabau & King. MBM280618, holotype, length = 12.1 mm.

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FIG. 7A-F. Ostrea chemnitzi var. elongata Grabau & King. A-D: MBM229012, lectotype. A, B: length = 21.7 mm; С, D: length = 18.7 тт; E-F: MBM260724, paralectotype, length = 25.8 mm.

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18.7 mm x 14.0 mm, width of pv = 7.0 mm); paralectotypes, MBM260724 (ex GKLNH, 6 pv, 4 lv, 14 rv), Peitaiho, July 1925.

Modern Status
Synonym of Crassostrea gigas (Thunberg, 1793).

Remarks

The type material of this junior homonym included specimens of both Crassostrea gigas (Thunberg, 1793) and of Talonostrea talonata Li & Qi, 1994. This species has also been regarded as a synonym of Parahyotissa chemnitzii (Hanley, 1846) (Higo et al., 1999: 438), or of Talonostrea talonata Li & Qi, 1994 (Inaba et al., 2004: 21-22). One label in the box with the type material was written (by Lou Tze-Kong) as Ostrea (Crassostrea) pes-tigris Hanley, and Tchang & Lou (1956) took it as a synonym of Ostrea (Crassostrea) pestigris (Hanley, 1845). But Li & Qi (1994) thought it was not Hanley’s species and described it as Talonostrea talonata Li & Qi, 1994. We do not agree with Bernard et al. (1993: 47) that it is a synonym of Pretostrea rosacea (Deshayes, 1836). Indeed, the specimens of Grabau & King were of two different species, Cras-sostrea gigas (Thunberg, 1793) (Fig. 5A—D) and Talonostrea talonata Li & Qi, 1994 (Fig. 5E, F), and our lectotype now settles its status as a synonym of С. gigas, thereby maximizing nomenclaural stability.

Ostrea gigas var. tientsiensis
Grabau & King, 1928

Ostrea gigas [Thunberg, 1793] var. tientsien-sis Grabau & King, 1928a: 32; 1928e: 26; 1928f: 59.

Material Examined
Not found.

Modern Status
Probably a synonym of Crassostrea gigas (Thunberg, 1793).

Remarks

We think it may be Crassostrea gigas, only longer and thicker than most specimens. It may have been based on a subfossil specimens, because this species once lived in estuary of

the ancient Huang-Ho (Yellow River), half way between Tientsin (Tianjin) and the Taku Bar (Tanggu).

Family Anomiidae Rafinesque, 1815

Anomia nipponensis var. obsoletocostata Grabau & King, 1928
Figure 8A-F

Anomia nipponensis [Yokoyama, 1920] var. obsoleto-costata Grabau € King, 1928f: 165-166, 256, pl. 2, fig. 16a, b.

Material Examined
Syntypes, MBM280620 (ex GKLNH, 11 lv), Peitaiho, July 1925; МВМ280621 (exMZFIBCS, 4 lv), Yindao (now Hondao, Qingdao).

Modern Status
Synonym of Anomia chinensis Philippi, 1849.

Remarks

It is not yet certain whether there is more than one species of Anomia on the coast of China. Assuming that there is only one, then Anomia nipponensis var. obsoletocostata Grabau & King, 1928, A. cuticula Grabau & King, 1928, and A. plana Grabau & King, 1928, are all synonyms ofthe oldest available name, Anomia chinensis Philippi, 1849. Some authors have also recognized Anomia cytaeum Gray, 1850, such as Huber (2010: 188, 617), with the Gra-bau & King taxa variously synonymized. Until additional morphological and genetic studies are done, these issues cannot be resolved.

Anomia cuticula
Grabau & King, 1928
Figure 9A—D

Anomia cuticulum Grabau & King, 1928b: 97; 1928e: 38; 1928f: 85, 166 [on the latter page as Anomia “outicula”, and corrected on errata sheet], 256, pl. 2, fig. 17.

Material Examined
Syntypes, MBM280622 (ex GKLNH, 8 lv), Peitaiho, July 1925.

Modern Status
Synonym of Anomia chinensis Philippi, 1849.

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FIG. 8A-F. Anomia nipponensis var. obsoletocostata Grabau & King. MBM280620, syntype. À, B: length = 30.5 mm, C, D: length = 19.6 mm; MBM280621, length = 22.4 mm.

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Remarks Material Examined Not found.
See Remarks under previous species.
Modern Status
Anomia plana Synonym of Anomia chinensis Philippi, 1849.
Grabau & King, 1928
Remarks
Anomia plana Grabau & King, 1928b: 97; 1928e:
30/1920. 166, 256..pl. 2 fie. 13а ‘b: See Remarks above.

FIG. 9A-D. Anomia cuticulum Grabau & King. MBM280622, syntype. A, B: length = 24.2 mm; C, D: length = 23.3 mm.

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Family Pectinidae Rafinesque, 1815

Pecten teilhardi
Grabau & King, 1928
Figure 10A, B

Pecten teilhardi Grabau & King, 1928b: 98-99;
1928e: 39; 1928f: 87-88, 168, 258, pl. 3, fig. Za o:

Material Examined
MBM280624 (ex MZFIBCS, 1 lv), Beidaihe.

Modern Status
Synonym of Volachlamys hirasei (Bavay, 1904).

Remarks

Wang (1990, 2002) regarded this species as a synonym of Volachlamys hirasei (Bavay, 1904), as did Raines & Poppe (2006: 328-330, 340, 354, pl. 287, figs. 1-7) and Huber (2010: 203, 625).

Chlamys solaris var. peitaihoensis
Grabau & King, 1928
Figure 11A-D

Chlamys solaris [Born, 1778] var. peitaihoensis Grabau € King, 1928b: 98; 1928e: 38; 1928f: 86, 168, not figured. |

Material Examined
Syntypes, MBM280625 (ex GKLNH, 1 rv, 1 №; labeled “Pecten solaris Born var. peitaihoen-sis Grabau & King”), Peitaiho, July 1925.

Modern Status
Synonym of Volachlamys hirasei (Bavay, 1904) (H. K. Dijkstra, pers. commun., 29 Nov. 2013).

Remarks

Although this species was not figured, it is clear from the description and syntypes that it is Volachlamys hirasei (Bavay, 1904).

FIG. 10A, B. Pecten teilhardi Grabau & King. MBM280624, length = 51.9 mm.

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ЕС. 11A—D. Chlamys solaris var. peitaihoensis Grabau & King. МВМ280625, syntype. А, В: length = 33.9 mm; C, D: length = 26.6 mm.

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Family Limidae Rafinesque, 1815

Lima angulata var. minor
Grabau & King, 1928

Lima angulata [G. B. Sowerby Il, 1843] var.
minor Grabau & King, 1928b: 99; 1928e: 39;
1928f: 88, 169, 258, pl. 3, fig. 22.

Material Examined
Not found.

Modern Status
Most likely a synonym of Limaria hakodaten-sis (Tokunaga, 1906).

Remarks

This species has been variously treated, but unfortunately the type material cannot be found. Bernard et al. (1993: 44) treated it as a distinct species, Promantellum minor (Grabau & King, 1928), while Higo et al. (1999: 438) listed it as Notolimea minor (Grabau & King, 1928). However, most authors have listed it as a synonym of Limaria hakodatensis (Tokunaga,
1906) (Xu, 1997: 77; Wang, 2002: 308-309;
Huber, 2010: 637).
Additionally, the taxonomy of Asian species of
Limaria remains unstable. Lima hakodatensis
was synonymized with Limaria (Limaria) basi-

FIG. 12A—D. Modiola subrugosa Grabau & King. MBM266848, syntype. A, B: length = 44.6 mm; C, D: length = 47.3 mm.

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lanica (A. Adams & Reeve, 1850) (Bernard et al., 1993: 43) or with Limaria (Limaria) orientalis (A. Adams & Reeve, 1850) (Choe et al., 1994: 76; Higo et al., 1999: 436). Kuroda et al. (1971: 586-587; 375) and Habe (1977: 103) first con-sidered L. hakodatensis as a distinct species; but later, Habe (1981: 78) synonymized it with L. orientalis. The type materials of L. orientalis and L. basilanica were figured by Higo et al. (2001: 154, as B365 € B364).

Family Mytilidae Rafinesque, 1815

Modiola subrugosa
Grabau & King, 1928
Figure 12A—D

Modiola subrugosa Grabau & King, 1928: 97; 1928e: 37; 1928f: 83, 170-171, 260, pl. 4, fig. 24.

Material Examined
Syntype, MBM266848 (ex GKLNH, 1 pv, 7 lv, 4 rv), Peitaiho, July 1925.

Modern Status
Synonym of Jolya rhomboidea (Reeve, 1857) (Huber, 2010: 125, 556), or of Mo-diolus (Modiolusia) elongatus (Swainson, 1821) (Wang, 1997: 186-188; Higo et al., 1999: 415).

Remarks

Earlier, Bernard et al. (1993: 32) placed this as a synonym of Modiolus nitidus (Reeve, 1857). Huber (2010) stated that Modiola subrugosa Grabau & King, 1928, and the species identified as Modiolus (Modiolusia) elongatus (Swainson, 1821) in China were actually Jolya rhomboidea (Reeve, 1857), so this fundamental issue needs to be resolved before Grabau & King’s species can be cor-rectly synonymized.

Modiola aquarius
Grabau & King, 1928

Modiola aquarius Grabau & King, 1928: 97; 1928e: 37; 1928f: 83-84, 171-172, 260, pl. 4, fig. 25a, b.

Material Examined
Not found.

Modern Status
Synonym of Arcuatula senhousia (Benson in Cantor, 1842) (Scarlato, 1981: 242; Bernard et al., 1993; 35, as Musculista; Huber, 2010: 112, pers. commun., 16 Dec. 2013). The genus Arcuatula Lamy, 1919, ex Jousseaume ms, is now regarded as a senior synonym of Musculista Yamamoto & Habe, 1958.

Family Veneridae Rafinesque, 1815

Venus jidoensis [sic; = jedoensis] var. alta Grabau & King, 1928
Figure 13A—D

Venus jidoensis [sic; = jedoensis Lischke, 1874] var. alta Grabau & King, 1928f: 176, 262, pl. 5, fig. 33, non Venus alta G. B. Sowerby Il, 1853.

Material Examined
Syntype, MBM280626 (ex GKLNH, 1 pv, 1 rv), Peitaiho.

Modern Status
Synonym of Leukoma [or Protothaca] jedoen-sis (Lischke, 1874) (Huber, 2010: Excel file on CD).

Rupellaria pechiliensis
Grabau & King, 1928
Figure 14A—F

Rupellaria pechiliensis Grabau € King, 1928f: 94-95, 179-180, 262, pl. 5, fig. 36.

Material Examined
Syntype, MBM280628 (ex GKLNH, 2 pv, 1 lv, 3 rv), Peitaiho, Grabau, 1922; MBM280629 (ex MZFIBCS, 1 rv), Beidaihe.

Modern Status
Synonym of /rus mitis (Deshayes, 1854) (Huber, 2010: 750).

Remarks

While some authors have considered this to be a synonym of Rupellaria fabagella (La-marck, 1818) (Bernard et al., 1993: 87; Higo et al., 1999: 513), the type material shows that it is instead a junior synonym of /rus mitis (Deshayes, 1854).

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FIG. 13A-D. Venus jidoensis (sic; = jedoensis) var. alta Grabau & King. MBM280626, syntype, length = 35.1 mm.

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FIG. 14A—F. Rupellaria pechiliensis Grabau & King. MBM280628, syntype. A-D: length = 12.4 тт; MBM280629; E, Е: length = 7.7 mm.

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Family Tellinidae Blainville, 1814

Tellina (Tellinides) planissima var.
peitaihoensis
Grabau & King, 1928
Figure 15A-H

Tellina (Tellinides) planissima [Anton, 1838] var. peitaihoensis Grabau & King, 1928b: 99; 1928e: 39; 1928f: 89, 180-181, 262, pl. 9 MO 37.

Material Examined
Syntype, MBM280630 (ex GKLNH, 30 pv, 68 гу, 63 №), Peitaiho, lab staff of GKLNH, July 1925; syntype, MBM280633 (ex GKLNH, 28 pv, 15 rv, 19 №), Peitaiho, July 1925.

Modern Status
Most likely a synonym of Tellina (s.l.) pumila Hanley, 1844 (Huber, pers. commun., May 10, 2014).

Remarks

This species has been treated in various ways. It has been treated as a distinct species, Fabulina (Moerella) peitaihoensis (Grabau & King, 1928) (Oyama, 1973: 114, pl. 53, figs. 3, 9), asynonym of Moerella rutila (Dunker, 1860) (Scarlato, 1965: 84; Bernard et al., 1993: 93; Xu, 1997: 165; Higo et al., 1999: 487; T. Haga, pers. commun., July 2014), or a synonym of Tellinides ovalis G. B. Sowerby |, 1825 (Ber-nard et al., 1993: 90, a second entry for the same taxon).

Family Semelidae Stoliczka, 1870 [1825]

Tellina murrayi
Grabau & King, 1928

Tellina murrayi Grabau & King, 1928f: 90, 182-183, 266, pl. 7, fig. 41, non E. A. Smith, 1885. Renamed Tellina murrayana Salisbury, 1934: 85.

Material examined
Not found.

Modern Status
Possibly a distinct species of Abra, Abra murrayana (Salisbury, 1934) (M. Huber, pers. commun., 20 Dec. 2013), or a synonym of

Abra lunella (Gould, 1861) (Haga, pers. com-mun., July 2014).

Remarks

Because murrayi was preoccupied by Tellina murrayi E. A. Smith, 1885, Salisbury (1934) renamed it as Tellina murrayana. It has been regarded as Macoma murrayi Grabau & King (Scarlato, 1965: 78, pl. 6, fig. 8; Xu, 1997: 168; Qi, 2004: 283, pl. 155A), and as a synonym of Macoma incongrua (Martens, 1865) (Bernard et al., 1993: 94; Xu & Zhang, 2008: 187; Higo etal., 1999: 489). However, the shell shape and prominent beaks are inconsistent with those of Macoma, and the small size is indicative of an Abra.

Family Donacidae Fleming, 1828

Tellina trigonoides
Grabau & King, 1928

Tellina trigonoides Grabau & King, 1928b: 100; 1928e: 40; 1928f: 90-91, 183, 266, pl. 7, fig. 42.

Material examined
Not found.

Modern Status
Synonym of Donax kiusiuensis Pilsbry, 1901 (Scarlato, 1965: 45-46; Bernard et al., 1993: 100; Xu, 1997: 151; Higo et al., 1999: 497).

Family Solenidae Lamarck, 1809

Solen corneus var. pechiliensis
Grabau & King, 1928
Figure 16A—D

Solen corneus [Lamarck, 1818] var. pechilien-sis Grabau & King, 1928b: 95; 1928e: 35; 1928f: 79, 186, 264, pl. 6, fig. 47a, b.

Material Examined
Syntypes, MBM280631 (ex GKLNH, 6 rv, Sly):

Modern Status
Synonym of Solen strictus Gould, 1861 (Xu, 1997: 187; Higo et al., 1999: 481; Xu & Zhang, 2008: 213).

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Smm

FIG. 15A-H. Tellina (Tellinides) planissima var. peitaihoensis Grabau & King. A-D: MBM280630, syn-type, length = 18.9 mm; E, F: MBM280633, length = 18.7 mm.

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Remarks

Tchang & Hwang (1964) thought this spe-
cies Was a synonym of Solen gouldii Conrad,
1867. However, Solen gouldii Conrad, 1867, is
now regarded as a synonym of Solen strictus
Gould, 1861. Bernard et al. (1993: 101) took this species and Solen strictus Gould, 1861, to be synonyms of Solen corneus Lamarck, 1818. However, the latter is a tropical species that occurs in Malaysia, Indonesia, Philippines, Thailand and Vietnam. Indeed, Cosel (2002:
329) noted that the name S. corneus was ap-plied in error to S. strictus by several authors including Grabau & King; S. strictus is much longer and more slender than S. corneus, with a more rounded posterior margin, and the shell

may have a brownish hue, whereas S. corneus is white (Cosel, 2002).

Family Mactridae Lamarck, 1809

Trigonella quadrangularis var. ventricosa Grabau & King, 1923
Figure 17A-D

Trigonella quadrangularis [Reeve, 1854] var.
ventricosa Grabau & King, 1928a: 39; 1928e:
34; 1928f: 76, 190, 264, pl. 6, fig. 53.

Material Examined
Syntypes, MBM280632 (ex GKLNH, 3 rv, 4
lv), Peitaiho, July 1925.

FIG. 16A-D. Solen corneus var. pechiliensis Grabau & King. MBM280631, syntype. A, B: length = 91.7 mm; C, D: length = 87.4 mm.

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Modern Status 1999: 476, as “Mactra (Mactra) veneriformis
Synonym of Mactra quadrangularis Reeve, Reeve, 1854, ex Deshayes ms, non W. Wood,
1854 (Bernard et al., 1993: 104; Higo et al., 1828”; Huber, 2010: Excel file on CD).

FIG. 17A-D. Trigonella quadrangularis var. ventricosa Grabau & King. MBM280632, syntype. A, B: length = 30.6 mm; C, D: length = 41.7 mm.

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Raeta fragilis Material Examined
Grabau & King, 1928 Syntypes, MBM280634 (ex GKLNH, 1 rv, 1 №).
Figure 18A-D
Modern Status
Rhaeta [sic; pro Raeta] fragilis Grabau & King, Synonym of Рае pellicula (Reeve, 1854
1928b: 94; 1928e: 34; 1928f: 190-192, 266, Bernard et al., 1993: 106; Xu, 1997: 145;
pl. 7, fig. 54. Higo et al., 1999: 479; Xu & Zhang, 2008:
165; Huber, 2010: Excel file on CD).

FIG. 18A—D. Raeta fragilis Grabau 8 King. MBM280634, syntype. A, B: length = 56.1 mm; C, D: length = 41.4 mm.

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Family Laternulidae Hedley, 1918 [1840] Material Examined
Syntypes, MBM280635 (ex GKLNH, 9 pv, 1
Anatina pechiliensis rv, 1 №), Peitaiho, July 1925.
Grabau & King, 1923
Figure 19A—D Modern Status
Synonym of Laternula marilina (Reeve, 1863
Anatina pechiliensis Grabau & King, 1928a: Bernard etal., 1993: 116; Xu, 1997: 256-257;
36—37; 1928e: 31; 1928f: 70, 193-194, 266, Higo eta l., 1999: 523; Xu & Zhang, 2008: 277
pl. ®, 1900. or of Laternula liautaudi (Мите, 1844) (Huber,
2010: 523, and pers. commun.).

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FIG. 19A-D. Anatina pechiliensis Grabau & King. MBM280635, syntype. A, B: length = 43.5 mm; C, D: length = 44.7 mm.

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Class Gastropoda Cuvier, 1795
Family Acmaeidae Forbes, 1850

Acmaea peitaihoensis
Grabau & King, 1928 &
Acmaea kolarovai
Grabau & King, 1928
Figure 20A-D

Acmaea peitaihoensis Grabau & King, 1928а: 39; 1928e: 61.
Acmaea kolarovai Grabau & King, 1928f: 143-144, 235, 278, pl. 11, fig. 114.

Material Examined
Syntypes, MBM229002 (ex GKLNH, 38 shells), Peitaiho, July 1925; syntypes, MBM229003 (ex GKLNH, 24 shells), July 1925, labeled “Patella peitahoensis Grabau & King”.

Modern Status
A distinct species, Collisella peitaihoensis (Grabau & King, 1928) (Qi, 2004: 14, pl. 6F).

Remarks

The description of Acmaea peitaihoensis (Grabau & King, 1928d: 39) is identical to that of Acmaea kolarovai (Grabau & King, 1928f: p. 143-144), the latter named in honor of Dr. F. N. Kolarova, and the authors evidently changed their minds about the name. Acmaea peitaihoensis Grabau & King, 1928, has priority, and Acmaea kolarovai Grabau & King, 1928, is thus a junior synonym. Placed in various genera by authors (Zhao et al., 1982: 20-21, pl. 2, fig. 2, pl. 3, fig. 3, as Patelloida; Qi et al., 1989: 21, text-fig. 24, as Acmaea).

Family Patellidae Rafinesque, 1815

Acmaea testudinalis Muller, var. minor Grabau & King, 1928
Figure 21А-С

Acmaea testudinalis [Müller, 1776] var. minor Grabau & King, 1928d: 39; 1928e: 61-62, not preoccupied by Acmaea testudinalis var. minor Verkrüzen, 1881, which is a nom. nud. [from Newfoundland]; 1928f: 144, 235-236, 276, Di. 11, Nes. 1 10a, D, с.

Material Examined
We did not find any specimens labeled Ac-maea testudinalis Miller, var. minor Grabau & King, 1928, but we found a lot with label of “Acmaea testudinaria Grabau & King” (Fig. 21A-C, MBM280639, ex GKLNH, 71 shells, Peitaiho, July 1925) [non Patella testudinaria Linnaeus, 1758], the specimens in which closely resemble the original figures of Ac-maea testudinalis Müller, var. minor (Grabau & King, 1928f: pl. 11, figs. 115a—c.), and might be the syntypes.

Modern Status
Synonym of Patelloida pygmaea (Dunker, 1860).

Family Trochidae Rafinesque, 1815

Trochus (Livona) ephebocostalis
Grabau & King, 1923
Figure 22A-D

Trochus ephebicostalis Grabau 8 King, 1928d: 35; 1928e: 57; 1928f: 134, 237-238. 278, pl. 11, fig. 118 [as “Trochus (Livona) ephebocos-talis”; corrected on errata sheet].

Material Examined
Syntypes, MBM280641 (ex GKLNH, 17 shells), Peitaiho, July 1925; MBM229005 (ex MZFIBCS, 1 shell), Beidaihe [= Peitaiho].

Modern Status
Synonym of Chlorostoma rustica (Gmelin, 1791) (Qi et al., 1989: 26, pl. 4, fig. 11).

Monodonta trochiformis
Grabau & King, 1928
Figure 23A, B

Monodonta trochiformis Grabau & King, 1928d: 34° 19286: 57: 1928f: 1337 238,273, ple 11, fig. 119.

Material Examined
Syntypes, MBM280640 (ex GKLNH, 80 shells), Peitaiho, July 1925.

Modern Status
Synonym of Monodonta labio Linnaeus, 1758 (Qi et al., 1989: 25, pl. 1, fig. 4).

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ЕС. 20A-C. Acmaea peitaihoensis Grabau & King. MBM229002, syntype, length = 11.4 mm; D: Patella peitahoensis Grabau & King, 1928. MBM229003, syntype, length = 9.5 mm.

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Remarks

Oyama (1973: 14, pl. 1, fig. 23a, b) thought
that this might be a distinct species or a subspecies of Monodonta labio, but he still
listed it as synonym of Monodonta glabra-
tum and Monodonta labio. We agree with Qi et al. (1989) that this species is actually the Indo-Pacific widely distributed Monodonta labio.

Family Littorinidae Children, 1834

Littorina heterospiralis
Grabau & King, 1928
Figure 24A, B

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Littorina heterospiralis Grabau & King, 1928f: 230-231, 274, pl. 10, fig. 104.

Material Examined
Syntypes, MBM280647 (ex GKLNH, 14 shells), Peitaiho, July 1925.

Modern Status
Synonym of Littorina brevicula (Philippi, 1844) (Qi et al., 1998: 28-29, text-fig. 27; Higo et al., 1999: 90).

Remarks

Qi et al. (1998), Reid (1996) and Higo et al. (1999) all agreed that this species is asynonym of Littorina brevicula (Philippi, 1844).

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ЕС. 21A-C. Acmaea testudinaria Grabau & King. MBM280639, length= 13.9 тт.

TAXA OF GRABAU & KING (1928)

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FIG. 22A-D. Trochus (Livona) ephebocostalis Grabau & King. A, B: MBM280641, syntype, length = 21.9 mm; C, D: MBM229005, length = 16.9 mm.

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FIG. 24A, B. Littorina heterospiralis Grabau & King. MBM280647, syntype, length = 10.7 mm.

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FIG. 25A, B. Rissoina barbara Grabau & King. MBM280646, syntype, length
= 2.76 mm.

Family Rissoidae Gray, 1847

Rissoina barbara
Grabau & King, 1928
Figure 25A, B

Rissoina barbara Grabau & King, 1928d: 34; 1928e: 57; 1928f: 132-133, 230-231, 275, pl. 10: 15. 105.

Material Examined
Syntypes, MBM280646 (ex GKLNH, 80 shells), no collection information.

Modern Status
Rissoina barbara Grabau & King, 1928, or pos-sibly a synonym of Alvania concinna (A. Adams, 1861) (T. Haga, pers. commun., July 2014).

Rissoina dunedini
Grabau & King, 1928
Figure 26A, B

Rissoina dunedini Grabau & King, 1928d: 34; 1928е: 57; 1928f: 133 [as “РК. dunedoni’;

corrected on errata sheet], 231, 275, pl. 10, fig. 106.

Material Examined
Syntypes, MBM280645 (ex GKLNH, 6 shells), no collection information.

Modern Status
Synonym of Barleeia angustata (Pils-bry, 1901) (T. Haga, pers. commun., July 2014; S. Zhang, pers. commun., October 2014).

Remarks

Regarded by Zhao et al. (1982: 31-32, pl. 4, fig. 2) as a distinct species.

Rissoina nelsoni
Grabau & King, 1928
Figure 27A, В

Rissoina nelsoni Grabau & King, 1928d: 94; 19298: 57, (9201 2831, 225, pl. 10, fig. 107:

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FIG. 26A, B. Rissoina dunedini Grabau & King. MBM280645, syntype, length = 2.40 mm.

FIG. 27A, B. Rissoina nelsoni Grabau & King. MBM280644, syntype, length = 2.20 mm.

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FIG. 28A, B. Rissoina bureri Grabau & King. MBM280643, syntype, length = 2.74 mm.

Material Examined
Syntypes, MBM280644 (ex GKLNH, 13
shells), no collection information.

Modern Status
Synonym of Barleeia angustata (Pilsbry,
1901) (T. Haga, pers. commun., July 2014; S. Zhang, pers. commun., October 2014).

Rissoina bureri
Grabau & King, 1928
Figure 28A, B

Rissoina bureri Grabau & King, 1928d: 34; 1928e: 57; 19281" 133, 231-232, 275, pl. 10, fig. 108.

Material Examined
Syntypes, MBM280643 (ex GKLNH, 4 shells), no collection information.

Modern Status
Rissoina bureri Grabau & King, 1928 (Zhao et al., 1982: 32, pl. 4, fig. 1; Qi et al., 1989: 34, text-figs. 32 & 33; Qi, 2004: 36, pl. Tr).

Family Calyptraeidae Lamarck, 1809

Crepidula ostraeiformis
Grabau & King, 1928
Figure 29A, B

Crepidula ostraeiformis Grabau & King, 1928d: 38; 1928e: 61; 1928f: 142-143, 232, 275, pl.
10, fig. 109.

Material Examined
Syntypes, MBM229001 (ex GKLNH, 27 shells), no collection information.

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Modern Status
Synonym of Siphopatella walshi (Reeve,
1859) (syn. nov. herein).

Family Eulimidae Philippi, 1853

Eulima bilineata
Grabau & King, 1928
Figure 30A, B

Eulema [sic; pro Eulima] bilineata Grabau 8 King, 1928d: 36, non Alder, 1848, non A. Adams € Reeve, 1850; 1928e: 59; 1928f: 138, 215, 2709, р 99. в

Material Examined
Syntypes, MBM280650 (ex GKLNH, 3 shells), Peitaiho.

Modern Status
Qi et al. (1989: 43, text-fig. 36) listed it as a synonym of Eulima bifascialis (A. Adams, 1863). However, it seems to be both a junior homonym and a synonym of Eulima bilineata A. Adams & Reeve, 1850. However, the latter itself requires a replacement name, best done in the context of a comprehensive review of this genus.

Family Epitoniidae Berry, 1910 [1812]

Epitonium (Scalaria) pretiosa var. minor
Grabau & King, 1928
Figure 31A, B

Scalaria pretiosa [Lamarck, 1816] minor Gra-
bau & King, 1928d: 35; 1928e: 58; 1928f:

FIG. 29A, B. Crepidula ostraeiformis Grabau & King. MBM229001, syntype, length = 10.0 mm, width = 11.1 mm.

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FIG. 304, В. Eulima bilineata Grabau & King. MBM280650, syntype, length = 10.6 mm.

135-136, 226-227, 274, pl. 10, fig. 98 [as
Epitonium (Scalaria))].

Material Examined
Syntypes, MBM280648 (ex GKLNH, 7 shells),
Peitaiho, July 1925.

Modern Status
Epitonium scalare minor Garbau & King, 1928 (Qi et al., 1989: 80, pl. 5, fig. 3; Qi, 2004:
131. РГ. eC),

Epitonium (Scalaria) gradata var. pygmaea Grabau & King, 1928

Scalaria gradata [G. В. Sowerby Il, 1844, ex Hinds ms] pygmaea Grabau & King, 1928а:

36; 1928e: 58-59; 1928f: 137, 227-228, 274, pl. 10, fig. 100 [as Epitonium (Scalaria)].

Material Examined
Not found.

Modern Status
Gradatiscala gradata pygmaea (Grabau & King, 1928) (Qi et al., 1989: 81-82, pl. 5, fig. 13: Qi, 2004: 132, fig. 781).

Epitonium (Scalaria) subtilis var. laevis Grabau & King, 1928

Scalaria subtilis [С. В. Sowerby Il, 1844] oevis Grabau & King, 1928d: 36; 1928e: 59: 1928f: 137, 228, 274, pl. 10, fig. 101a, b [as Epito-

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nium (Scalaria) subtilis laevis throughout].
It is clear from the original account that the
spelling “oevis” was a typographical error —
“but in the present variety, this crenulation is
scarcely marked”, and it was so corrected in
their last account.

Material Examined
Not found.

Modern Status
Synonym of Acrilla acuminata (G. B. Sowerby ||, 1844) (Qi et al., 1989: 85, pl. 5, fig. 20).

Family Muricidae Rafinesque, 1815

Rapana pechiliensis
Grabau & King, 1928
Figure 32A-D

Rapana pechiliensis Grabau & King, 1928c: 324; 1928e: 46; 1928f: 202, 268, pl. 8, fig. 62;

Material Examined
MBM258933 (ex MZFIBCS, 1 shell), Yantai and Beidaihe [= Peitaiho]. MBM258597 (MBM-CAS, 1 shell) collected on December 8, 1952, Tsingtao [Qingdao], identified by Tchang.

Modern Status
Synonym of Rapana venosa (Valenciennes, 1846) (Zhao et al. 1982: 55-56, pl. 6, fig. 9, pl. 2, fig. 34; Qi et al., 1989: 55-56, pl. 2, fig. 6).

Remarks

This name was listed by many authors, in-cluding Yen (1936: 243-244, pl. 22, fig. 55), Tchang et al. (1955: 19, pl. 4, fig. 1-3, text-fig. 15), Higo et al. (1999: 215) and Okutani (2000:
399) as a subspecies of Rapana venosa (Va-lenciennes, 1946). Zhang (1980) studied the
distribution, ecology and morphology of this
species and concluded that Grabau & King’s
taxon was a synonym of Rapana venosa. This
was confirmed by quantitative study of Yang
et al. (2006).

FIG. 31A, B. Epitonium (Scalaria) pretiosa var. minor Grabau & King. MBM280648, syntype, length = 12.8 mm.

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SHOLOGICAL SECTION

FIG. 32A-D. Rapana pechiliensis Grabau & King. А, В: MBM258933, length = 87.7 mm; С, D: MBM258597, length = 105.5 mm.

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Purpura alveolata var. pechiliensis
Grabau & King, 1928
Figure 33A, B

Purpura alveclata [sic; alveolata Reeve, 1846]
var. pechiliensis Grabau & King, 1928c: 325;
1928e: 47; 1928f: 108-109, 203, 268, pl. 8, fig. 64.

Material Examined
Syntypes, MBM258837 (ex GKLNH, 9 shells), Peitaiho, July 1925.

Modern Status
Synonym of Thais clavigera (Küster, 1860) (Qi et al., 1989: 56-57, pl. 1, fig. 5).

Purpura bronni Dunker var. suppressa Grabau & King, 1928
Figure 34A—D

Purpura bronni [Dunker, 1860] var. suppressa Grabau & King, 1928c: 325; 1928e: 47; 1928f: 108.
Purpura bronii [sic] [Dunker, 1860] var. suppressa Grabau & King, 1928f: 204, 268, pl. 8, fig. 66.

Material Examined
Syntypes, MBM280653 (ex GKLNH, 4 shells), no collection information.

Modern Status
Synonym of Thais luteostoma (Holten, 1803) (Qi et al., 1989: 57, pl. 8, fig. 7).

Remarks

Earlier authors merely repeated the original
combination but in a different genus, Thais bronni
suppressa (Grabau & King) (Yen, 1936: 238-239, pl.
21, figs. 52, 52a; Zhao et al., 1982: 58, pl. 4, fig. 5).

FIG. 33A, B. Purpura alveolata var. pechiliensis Grabau & King. MBM258837, syntype, length = 20.4 mm.

TAXA OF GRABAU & KING (1928 ZUM

FIG. 34A-D. Purpura bronni var. suppressa Grabau & King. MBM280653, syntype, length
= 47.1 mm.

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Purpura altispiralis
Grabau & King, 1928
Figure 35A, B

Purpura altispiralis Grabau & King, 1928c: 326;
1928e: 47-48; 1928f: 110, 204-205, 268, pl.
8, fig. 67.

Material Examined
Syntypes, MBM258524 (ex GKLNH, 44 shells), Peitaiho.

Modern Status
Synonym of Thais clavigera (Küster, 1860) (Qi et al., 1989: 56-57, pl. 1, fig. 5).

Family Nassariidae Iredale, 1916 [1835]

Nassa gregaria
Grabau & King, 1928

Nassa gregaria Grabau & King, 1928c: 328; 19286: 50; 19261: 115, 207, 268, pl. 3, fig. 71.

Material Examined
Not found.

Modern Status
Nassarius gregarius (Grabau & King, 1928).

Remarks

Cernohorsky (1984: 176-178, pl. 37, figs. 1-14) regarded this species as a synonym of Nassarius (Hima) pauper (Gould, 1850). On the other hand, Qi et al. (1989: 70, pl. 7, fig. 2) and Qi (2004: 99, pl. 59J) thought this species was valid. Kool & Dekker (2006: 63) examined the synonyms of Nassarius (Hima) pauper (Gould, 1850) and also regarded Nassarius gregarius (Grabau & King, 1928) as a distinct species.

FIG. 35A, B. Purpura altispiralis Grabau & King. MBM258524, syntype, length = 20.4 mm.

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Family Terebridae Mörch, 1852

Terebra bellanodosa
Grabau & King, 1923
Figure 36A, B

Terebra “ballanodosa” [error pro “bellanodosa”] Grabau & King, 1928c: 330; 1928e: 51-52; 1928f: 119, 214, 270, pl. 9, fig. 80, as T. bel-lanodosa [Terebridae]. It is clear from the original account — “This is the beautifully noded Тегебга” — that the spelling “balla” was intended to be “bella”, and it was so corrected in the 1928f treatment.

Material Examined
Syntypes, MBM280652 (ex GKLNH, 12 shells), Peitaiho, July 1925.

Modern Status
Regarded by Bratcher & Cernohorsky (1987:
229) as a nomen dubium, it instead seems to be a distinct species, Terebra bellanodosa Grabau & King, 1928 (Zhao et al., 1982: 71, pl. 2, fig. 29; Qi et al., 1989: 79, pl. 8, fig. 10; Qi, 2004: 129, pl. 771 & text-fig. 29). Other material of the same species in the MBM collection has an additional Grabau & King ms name.

FIG. 36A, B. Terebra bellanodosa Grabau & King. MBM280652, syntype, length = 29.7 mm.

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FIG. 37A, B. Turbonilla garrettiana var. alba Grabau & King. MBM280649, syntype,
length = 9.3 mm.

Family Mangeliidae P. Fischer, 1883

Mangelia dobsoni
Grabau & King, 1928

Mangelia dobsoni Grabau & King, 1928d: 32;
1928e: 55; 1928f: 126, 220, 270, pl. 9, fig. 91.

Material Examined
Not found.

Modern Status
Mangelia dobsoni Grabau & King, 1928.

Remarks

Qi et al. (1989: 75-76) mentioned that M. costulata illustrated by Grabau & King

(1928f: pl. 9, fig. 90) was not Dunker’s (1860) species. However, the figure of M. dobsoni (Grabau & King, 1928f: pl. 9, fig. 91) was remarkably similar to the real M. costulata (Dunker, 1860).

Family Pyramidellidae Gray, 1840

Turbonilla garrettiana var. alba
Grabau & King, 1928
Figure 37A, B

Turbonilla garrettiana [Dall & Bartsch, 1906] alba Grabau & King, 1928d: 37; 1928e: 59-60; 1928f: 139, 217, 270, pl. 9, fig. 85.

Material Examined
Syntypes, MBM280649 (ex GKLNH, 21 shells), no collection information.

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Modern Status
Nomen dubium; probably a Mormula and unrelated to Turbonilla (Chemnitzia) gar-rettiana (pers. commun., P. I. LaFollette, 10
May 2014).

Family Siphonariidae Gray, 1827

Siphonaria alterniplicata
Grabau & King, 1928
Figure 38A, B

Siphonalia [sic; pro Siphonaria] alterniplata Grabau & King, 1928d: 39; 1928e: 62; 1928f: 145, 237, 278, pl. 11, fig. 117а-с.

Material Examined
Syntypes, MBM280642 (ex GKLNH, 72 shells), Peitaiho, July 1925.

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Modern Status
Synonym of Siphonaria japonica (Donovan, 1834) (Qi et al., 1989: 143-144, text-fig. 110).

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specimens for comparisons.

Smm

FIG. 38A, B. Siphonaria alterniplicata Grabau & King. MBM280642, syntype, length = 14.2 mm.

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